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ABSTRACT

This paper describes different products to assist students who are only able to use one hand while typing. Information is provided on: (1) access features in Macintosh and Windows95, including Easy Access (Mac) and Accessibility Options (Win95) which allow the user to press a key such as the shift key and subsequently press the letter to be capitalized instead of pressing both at the same time; (2) keyboard navigation, hot-keys, and shortcuts; (3) access features in word-processing programs; (4) word prediction software; (5) on-screen keyboards; (6) one-handed typing programs; (7) alternate keyboard and layout options; (8) alternate keyboards; and (9) voice files and voice recognition. (CR)

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Solutions for a One Handed Typist
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Closing the Gap
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Introduction

There are probably as many solutions for one-handed typists as there are one-handed typists. It's imperative to tailor the solution to the individual's unique abilities and requirements.

A team approach should be used whenever possible to ensure the widest possible knowledge base. A technology solution which seems to solve the typist's problem may actually introduce other problems such as excessive strain on the hand or atrophy of the less-functional hand for a two-handed individual.

SET-BC consultants tend to use the concept of least restrictive access in making a recommendation for their clients. Solutions which require the fewest special adaptations are favoured so long as they meet the individual's need.

There are many products available which address the needs of single-handed typists. The products mentioned here are cited merely as examples and should not be regarded as a product endorsement. Please use the section headings such as "alternate keyboards" or "voice recognition" as keywords to search the Internet for other available products.

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Access Features in Mac and Win95 OS

The Easy Access, Keyboard, and Mouse Control Panels (Mac) or Accessibility Options, Keyboard, and Mouse Control Panels (Win 95) contain helpful options for the single-handed typist. Remember to turn off the 5 minute default for Accessibility Options in Windows 95 (under the General tab) or your adjustments will automatically quit working after 5 minutes.

If holding down two or three keys simultaneously is a problem, turn on Sticky Keys in the Easy Access (Mac) or Accessibility Options (Win95) Control Panel.
This allows the user to press a key like Shift and subsequently press the letter to be capitalized instead of pressing both at the same time.

Many single-handed typists have excellent fine and gross motor control. However, if the student drags his or her hand or has targeting problems, he or she may frequently hit unwanted keys. On a Mac, use Easy Access: Slow Keys, specifying the acceptance delay. In Win 95 under Accessibility Options: Filter Keys, choose "ignore quick keystrokes" . Under "Settings" you can specify the amount of time you want a key to be held down before it registers as an intentional keystroke. This eliminates the need for keyguards in most instances.

The student may hold down a key too long, creating excessive key repetitions. On a Mac go to the Keyboard Control Panel and set the repeat delay very long or turn repeat completely off. In Win 95 under Accessibility Options: Filter Keys, choose "ignore repeated keystrokes" and under "Settings" you can specify the amount of delay required to get a repeat.

Control the mouse tracking and clicking speed in the Mouse Control Panel on both platforms. In Win 95 you can also change the cursor appearance associated with different events and swap the left/right click buttons.

If your student has good keyboard control but finds using a mouse difficult, you may want to try a feature called Mouse Keys. Turn on Mouse Keys in the Easy Access (Mac) Control Panel or Accessibility Options (Win95). This allows all mouse movement and functions including clicking to be executed using the numeric keypad.

If your student has difficulty using the keyboard and mouse in their current location, change their position or angle with blocks of styrofoam or velcro. For example, it may be easier for a hunt and peck typist or a student with visual tracking problems to use a keyboard mounted vertically.

Keyboard Navigation, Hot-Keys, and Shortcuts

If your student finds using a mouse difficult or wants to avoid constantly switching back and forth from keyboard to mouse, it may be helpful to learn the keyboard navigation and shortcuts. Most word-processors also have their own shortcuts. Check your documentation or onscreen help.

Keyboard equivalents are printed on the right hand side of each menu selection. In Win95 the underlined keys are hot-keys for an item. In addition, pressing the initial letter of an item on the desktop or in a list box will usually jump to that item. The **ClickIt!** program for the Mac (Intellitools) allows access to the menu through the keyboard by adding underlines as hot-keys to the regular menu and also allows you to create hot keys for menu items that have no keyboard equivalents.

Once you're in a menu, you can usually navigate using the arrow keys. Win95 and the new Mac System 8.0 have menus that stay open. Use the shareware extension **Sticky Click** to hold menus open on Mac System 7.0.

I have developed a summary of Windows 95 keyboard navigation organized by tasks such as Navigating the Start Menu, Working in Dialogue Boxes, etc. It's available on the SET-BC website.

Access Features in Word-Processing Programs

Shortcut Buttons:
If your student has trouble navigating through menus but can point and click with a mouse, you may want to customize your Shortcuts Palette. For example, **ClarisWorks** allows you to choose which buttons will be displayed in the palette and even their size. A tipsheet on using ClarisWorks Shortcuts is available on the SET-BC website.

Macros:
If your student finds typing laborious and wants to save keystrokes, you may want to explore the macro function now built into most word processors. The macro function allows you to record a series of keystrokes such as sending a document to the printer or typing your full name and address and saving that sequence. ClarisWorks allows you to select from a list of macros you've already created in the menu or assign a keyboard hot-key to that macro. **TypeIt4Me** is an excellent Mac shareware program which operates with any word-processor.

Stationery Files:
If your student finds it cumbersome to set up documents in a certain way each time, changing fonts, size, typing their name, date, etc. you may want to set up some

stationery files. Once the main file is set up, it can be saved as a template. When opened it creates a new blank document with the saved settings but doesn't destroy the original.

Word-Prediction Software

If your students types fewer than 10 words a minute and could use some help with spelling and grammar, word-prediction software may be a good solution. Programs such as **Co:Writer** (Don Johnston; Mac,Win95) or **KeyREP** (Prentke Romich; Win) eliminate keystrokes by predicting a choice of grammatically correct words as you type. For example, you might type the leters "ph" and a list of 5 words beginning with "ph" appears. You can choose one of these by number or type the next letter of the word for more choices.

On-Screen Keyboards

If your student is more proficient with a mouse than a keyboard, you might want to consider an on-screen keyboard. This keyboard appears on your screen, and you click on the key you want to select. Most of these programs provide a choice of keyboard layouts and allow you to design your own. The new **Discover:Screen** (Don Johnston; Mac) allows you to create layouts that contain words in addition to letters which would be idea for emergent writing. Prentke Romich mades the **WIVIK2** for Win95.

One-Handed Typing Programs

If speed is a concern, you may want to get your student started on a typing tutorial. Some of the commercially available products are beginning to offer a choice of Qwerty or Dvorak keyboards. Companies that sell alternative keyboards provide training manuals, and some offer their own specialized software tutorials. However, there are many free tutorials for Dvorak keyboards on the Internet. **Bob Harrell's Home Page** offers a tutorial specifically for the single-handed Dvorak keyboard user.

A text-based typing tutor for one-handed typing called **Type With One Hand** (Richardson, 1959, ISBN 0-538-20090-1) has just been reprinted by Nelson, Canada. This program uses f,g,h,j as the home keys and gives a sequence of instruction as well as exercises. A junior high or secondary student could use it independently.

Five Finger Typist 1.5 (Mayer Johnson from SoftDawn; Mac, Win95) is an onscreen typing tutorial.

Alternate Keyboard & Layout Options

QWERTY:

The QWERTY keyboard is the standard keyboard layout used in North America. It was designed to make typing as inefficient as possible in order to avoid jamming of keys on the old manual typewriters. Many European and Asian countries have switched to the Dvorak layout.

Half-QWERTY:

A half-qwerty layout minimizes the area you must cover with one hand by superimposing one half of the keyboard on the other so that the Q and P, for example, are located on the same key. Left-handed and right-handed arrangements are available.

Dvorak:

The Dvorak keyboard is a more efficiently-organized layout. For example, in the home row you can type 3,000 words with a Dvorak but only 250 with the QWERTY. There are also left-handed and right-handed versions of the Dvorak. In these layouts, the letters are concentrated on one side of the keyboard, and most of the numbers and punctuation are located on the other.

Dvorak drivers for both the Mac and PC can be found easily on the Internet. The drivers are sometimes preinstalled on newer Macs and PC's with Win 95. You can purchase Dvorak keyboards or pop the keys off your old keyboard and rearrange them. You can also get a set of keyboard labels to paste over your old keys and/or buy a plastic key guard and paste the labels on that.

Frequency Layouts:

Other custom-designed layouts are available which are based on the frequency of letter use in English. They also take common letter combinations, prefixes, and suffixes into account. For example, the letters i,n,g and c,h will be adjacent.

Alternate Keyboards

Information about many different keyboards is easily accessible on the Internet. A few basic types are mentioned below.

AlphaSmart Pro Dedicated Word Processor:

This is a lightweight inexpensive dedicated word processor. You can print directly from the device or plug it into a Mac or IBM, upload the file to a blank word-processing document, and edit and print it from there. The new AlphaSmart Pro (Intelligent Peripheral Devices; Mac, Win) has accessibility features such as Sticky Keys built in. The user is also able to switch quickly to the Two-Handed, Left-Handed or Right-Handed Dvorak keyboard. However, the Dvorak keyboards are only accessible in stand-alone mode.

Chorded Keyboards:

The BAT personal keyboard (Infogrip; Mac, Win) is only 7 keys, and letters are made by pressing combinations of keys, similar to the way braille is entered.

Mini Keyboards:

Mini Keyboards such as those manufactured by Tash, International are available in a variety of layouts for both platforms. The Tash frequency layout has the space bar in the center and the other letters arranged around it. These would be useful for the student with very limited range of movement.

Ergonomic Keyboards:

Maltron makes an ergonomically-designed curved keyboard with a special layout for both the left and right handed typist.

Voice Files and Voice Recognition

Shareware programs such as **Diktafon** (Mac) and **MicroNotePad Lite** (Mac) allow you to record reminders, notes, or answers to exam questions as an alternative to typing.

Voice Recognition is available for both platforms. These programs allow you to speak into the computer, and the computer types the text for you. However, the correction mechanism, by which you train the computer to your voice over time, can be very cumbersome. Using these programs requires excellent computer skills, concentration, patience, large blocks of time, and dedication. The first generation of Voice Recognition software required words to be spoken discretely, but the newer versions such as **Simply Speaking** (IBM; Win95) or **Naturally Speaking** (Dragon Systems; Win 95) are based on continuous speech. Prices for this software are rapidly coming down into an affordable range. A very inexpensive way to see whether you like voice recognition is to purchase the **Kurzweil Voice Pad CD** (about $15) and an inexpensive microphone or download their demo version from the Internet.